

REMARKS

Claims 11-60 are pending in the present application.

In the Office Action, the Examiner rejected claims 1, 4, 6, 9, 11, 14, 16, 19, 21, 24, 26, 29, 41, 44, 46, and 49 under 35 U.S.C. 102(b) or 103(a) as being anticipated by or, in the alternative, obvious over, Chalamala, et al, "Effect of CH₄ on the Electron Emission Characteristics of Active Molybdenum Field Emitter Arrays," J. Vac. Sci. Tech. vol. 16(6), pgs. 307-376, 1998, hereinafter referred to as the first Chalamala publication in view of Chalamala, et al, "Interaction of H₂O with Active Spindt-Type Molybdenum Field Emitter Arrays," J. Vac. Sci. Tech. vol. 17, pgs. 303-305, 1999, hereinafter referred to as the second Chalamala publication. The Examiner rejected claims 11, 14-16, and 19-20 under 35 U.S.C. 102(b) as being anticipated by Chalamala, et al, "Effect of O₂ on the Electronic Emission Characteristics of Active Molybdenum Field Emission Cathode Arrays," J. Vac. Sci. Tech. B vol. 16, pgs. 2859-2865, 1998, hereinafter referred to as the third Chalamala publication. The Examiner rejected claims 12-13, 17-18, 22-23, 25, 27-28, 30-40, 42-43, 45, 47-48, and 51-60 under 35 U.S.C. 103(a) as being unpatentable over either the first Chalamala publication or the second or third Chalamala publications and in view of admitted prior art. The Examiner's rejections are respectfully traversed.

As Applicants have argued in the previous responses, the appeal brief, and the reply brief, the three Chalamala publications are concerned with the effect of residual gases on the performance of field emitter arrays. However, Applicants maintain that these references are not at all concerned with chemical toxins and/or biological toxins and therefore do not describe or suggest reacting, ionizing, or dissociating at least one radical species by exposure to at least one of a chemical toxin and a biological toxin, as set forth in the pending claims. The Examiner has

repeatedly alleged that molybdenum and/or methane are toxins. In support of this allegation, the Examiner has now presented Material Safety Data Sheets (MSDS) for molybdenum plate and methane, which the Examiner alleges indicate that molybdenum and methane are toxins. Applicants respectfully disagree.

The cited MSDS for molybdenum plate does not indicate that molybdenum requires any special first aid measures and suggests that first aid following inhalation should only be sought in the case of complaints. No specific protective and/or hygienic measures are suggested, breathing equipment is not required, and protection of hands is not required. The MSDS for molybdenum also states that molybdenum is not acutely toxic, has no irritant effect on the skin, and has no sensitizing effects. Accordingly, Applicants respectfully submit that the MSDS for molybdenum teaches that the substance is not a toxin, contrary to the Examiner's allegation.

The cited MSDS for methane also contradicts the Examiner's allegation that methane is a toxin. In particular, Part IV of the MSDS states that "there are no specific toxicology data for methane. Methane is a simple asphyxiant, which acts to displace oxygen in the environment." The MSDS also states that methane is not irritating and does not cause sensitization with prolonged or repeated contact. Accordingly, Applicants respectfully submit that the MSDS for methane teaches that the substance is not a toxin, contrary to the Examiner's allegation.

For at least the effort mentioned reasons, Applicants respectfully submit that the pending claims are not anticipated by any of the cited references. Applicants request that the Examiner's rejections of claims 1, 4, 6, 9, 11, 14, 16, 19, 21, 24, 26, 29, 41, 44, 46, and 49 under 35 U.S.C. § 102(b) be withdrawn.

Moreover, it is respectfully submitted that the pending claims are not obvious in view of the Chalamala publications and/or in view of the admitted prior art. To establish a *prima facie*

case of obviousness, the prior art reference (or references when combined) must teach or suggest all the claim limitations. As discussed above, the first and second publications are completely silent with regard to chemical and/or biological hazards and therefore do not teach or suggest at least the limitations related to reacting, ionizing, or dissociating a biological toxin and/or a chemical toxin. The admitted prior art also fails to teach or suggest any application of a field emitter array to the detection, mitigation, and/or remediation of chemical and/or biological hazards. Thus, Applicants respectfully submit that the Examiner has failed to make a *prime facie* case that the present invention is obvious over the cited references.

For at least the aforementioned reasons, Applicants respectfully submit that independent claims 11, 16, 21, 26, 31, 36, 41, 46, 51, 56, and all claims depending therefrom are not anticipated or rendered obvious by the Chalamala publications, either alone or in combination with the admitted prior art. Applicants respectfully request that the Examiner's rejections of claims 11-60 be withdrawn.

The Examiner is invited to contact the undersigned attorney at (713) 934-4052 with any questions, comments or suggestions relating to the referenced patent application.

Respectfully submitted,
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